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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,116	01/02/2002	Gerd Rosel	GR00P20121	8780

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EXAMINER

TRAN, BINH Q

ART UNIT PAPER NUMBER

3748

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/040,116	Applicant(s) ROSEL ET AL. (18)	
	Examiner BINH Q. TRAN	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-15 is/are rejected.
- 7) ☒ Claim(s) 2-3 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1, and 7-14 are rejected under 35 U.S.C. 102 (b) as being anticipated by Schumacher et al. (Schumacher) (Patent Number 6,116,021).

Regarding claims 1, Schumacher discloses a exhaust-gas cleaning system for an internal-combustion engine (16) having an exhaust-gas stream, comprising: an engine management system (10) for setting a composition of a mixture in the internal-combustion engine; a first exhaust-gas sensor (28) for measuring a composition of the exhaust-gas stream of the internal-combustion engine, said first exhaust-gas sensor configured in the exhaust-gas stream of the internal-combustion engine; a first exhaust-gas cleaning element (34) configured in the exhaust-gas stream of the internal-combustion engine, said first exhaust-gas cleaning element configured downstream from said first exhaust-gas sensor (28); a control unit (e.g. 10, 14, 18, 20, 22) for controlling the composition of the mixture in the internal-combustion engine as a function of the

Art Unit: 3748

composition of the exhaust-gas stream measured by said first exhaust-gas sensor (28), said control unit (10) having an input connected to said first exhaust-gas sensor, said control unit having an output connected to said engine management system (e.g. See col. 6, lines 15-32); and a second exhaust-gas sensor (30) configured in the exhaust-gas stream of the internal-combustion engine, said second exhaust-gas sensor configured downstream from said first exhaust-gas cleaning element (34); said control unit having a control response and a control input for influencing the control response to modify a local balance of an oxygen concentration in said first exhaust-gas cleaning element; and said control input of said control unit being connected to said second exhaust-gas sensor (e.g. See col. 6, lines 32-67; col. 7, lines 1-64).

Regarding claim 7, Schumacher further discloses that the first exhaust-gas cleaning element (42) includes a catalytic converter (34) (e.g. See col. 3, lines 12-67).

Regarding claim 8, Schumacher further discloses that the first exhaust-gas sensor (28) is a lambda sensor (e.g. See col. 4, lines 29-67; col. 5, lines 1-56).

Regarding claim 9, Schumacher further discloses that the second exhaust-gas sensor (30) is a lambda sensor (e.g. See col. 4, lines 29-67; col. 5, lines 1-56).

Regarding claim 10, Schumacher further discloses that the second exhaust-gas sensor (30) is a lambda sensor (e.g. See col. 4, lines 29-67; col. 5, lines 1-56).

Regarding claim 11, Schumacher further discloses that the first exhaust-gas sensor (28) is a binary lambda sensor (e.g. See col. 4, lines 29-67; col. 5, lines 1-56).

Regarding claim 12, Schumacher further discloses that the second exhaust-gas sensor (30) is a binary lambda sensor (e.g. See col. 4, lines 29-67; col. 5, lines 1-56).

Regarding claim 13, Schumacher further discloses that the second exhaust-gas sensor (30) is a binary lambda sensor (e.g. See col. 4, lines 29-67; col. 5, lines 1-56).

Regarding claim 14, Schumacher further discloses that the control unit (10) includes a controller selected from the group consisting of a P-controller, an I-controller, a D-controller, and an I2-controller (e.g. See Figs. 7-8; col. 11, lines 32-67; col. 12, lines 1-26).

Claims 1, and 4-15 are rejected under 35 U.S.C. 102 (e) as being anticipated by Yasui et al. (Yasui) (Patent Number 6,256,983).

Regarding claims 1, Yasui discloses a exhaust-gas cleaning system for an internal-combustion engine (1) having an exhaust-gas stream, comprising: an engine management system (e.g. 9, 10, 11, 12) for setting a composition of a mixture in the internal-combustion engine; a first exhaust-gas sensor (8) for measuring a composition of the exhaust-gas stream of the internal-combustion engine, said first exhaust-gas sensor configured in the exhaust-gas stream of the internal-combustion engine; a first exhaust-gas cleaning element (3) configured in the exhaust-gas stream of the internal-combustion engine, said first exhaust-gas cleaning element configured downstream from said first exhaust-gas sensor (8); a control unit (e.g. 9, 10, 11, 12) for controlling the composition of the mixture in the internal-combustion engine as a function of the composition of the exhaust-gas stream measured by said first exhaust-gas sensor (8), said control unit (e.g. 9, 10, 11, 12) having an input connected to said first exhaust-gas sensor, said control unit having an output connected to said engine management system (e.g. See col. 21, lines 60-67; col. 22, lines 1-17); and a second exhaust-gas sensor (7) configured in the exhaust-gas stream of the internal-combustion engine, said second exhaust-gas sensor configured downstream from said first exhaust-gas cleaning element (3); said control unit (e.g. 9, 10, 11, 12)

Art Unit: 3748

having a control response and a control input for influencing the control response to modify a local balance of an oxygen concentration in said first exhaust-gas cleaning element; and said control input of said control unit being connected to said second exhaust-gas sensor (e.g. See col. 21, lines 35-67; col. 22, lines 1-63).

Regarding claim 4, Yasui further discloses a second exhaust-gas cleaning element (4) configured in the exhaust-gas stream of the internal-combustion engine, said second exhaust-gas cleaning element configured downstream from said second exhaust-gas sensor (7) (e.g. See col. 21, lines 35-67; col. 22, lines 1-63).

Regarding claim 5, Yasui further discloses that the second exhaust-gas cleaning element includes a catalytic converter (e.g. See col. 19, lines 15-40).

Regarding claim 6, Yasui further discloses that the first exhaust-gas cleaning element includes a catalytic converter (e.g. See col. 19, lines 15-40).

Regarding claim 7, Yasui further discloses that the first exhaust-gas cleaning element (3) includes a catalytic converter (3) (e.g. See col. 3, lines 12-67).

Regarding claim 8, Yasui further discloses that the first exhaust-gas sensor (8) is a lambda sensor (e.g. See col. 21, lines 35-67; col. 22, lines 1-63).

Regarding claim 9, Yasui further discloses that the second exhaust-gas sensor (7) is a lambda sensor (e.g. See col. 21, lines 35-67; col. 22, lines 1-63).

Regarding claim 10, Yasui further discloses that the second exhaust-gas sensor (7) is a lambda sensor (e.g. See col. 21, lines 35-67; col. 22, lines 1-63).

Regarding claim 11, Yasui further discloses that the first exhaust-gas sensor (8) is a binary lambda sensor (e.g. See col. 21, lines 35-67; col. 22, lines 1-63).

Regarding claim 12, Yasui further discloses that the second exhaust-gas sensor (7) is a binary lambda sensor (e.g. See col. 4, lines 29-67; col. 5, lines 1-56).

Regarding claim 13, Yasui further discloses that the second exhaust-gas sensor (7) is a binary lambda sensor (e.g. See col. 21, lines 35-67; col. 22, lines 1-63).

Regarding claim 14, Yasui further discloses that the control unit (e.g. 9, 10, 11, 12) includes a controller selected from the group consisting of a P-controller, an I-controller, a D-controller, and an I2-controller (e.g. See Figs. 1-11; col. 49, lines 55-67; col. 50, lines 1-65).

Regarding claim 15, Yasui further discloses that the control unit includes a P-controller, an I-controller, a D-controller, and an I2-controller (e.g. See Figs. 1-11; col. 49, lines 55-67; col. 50, lines 1-65).

Allowable Subject Matter

Claims 2-3 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Since allowable subject matter has been indicated, applicant is encouraged to submit formal drawings in response to this Office action. The early submission of formal drawings will permit the Office to review the drawings for acceptability and to resolve any informalities remaining therein before the application is passed to issue. This will avoid possible delays in the issue process.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of four patents:

Bidner et al. (Pat. No. 6374597), Yasui et al. (Pat. No. 6449944), Bush et al. (Pat. No. 5842340), and Gopp (Pat. No. 5319921) all disclose an exhaust gas purification for use with an internal combustion engine.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Binh Tran whose telephone number is (571) 272-4865. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (571) 272-4859. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BT
February 02, 2005



Binh Q. Tran
Patent Examiner
Art Unit 3748